BULLETIN OF
THE NEW YORK ACADEMY
OF MEDICINE

VOL. 39, NO. 9 SEPTEMBER 1963

PEDIATRIC UROLOGY*

AN EVER WIDENING DOOR

The Second Ferdinand C. Valentine Lecture

MEREDITH F. CAMPBELL

Professor Emeritus of Urology
New York University School of Medicine

No citation that may come to one is more gratifying and more cherished than that bestowed upon him by his colleagues and peers. Notification of this Award—an honor I am happy to accept—came as a complete surprise. It is compensation enough for all the years of hard grinding work that led to the consideration of my candidacy for this recognition. Friends and associates, I am most indebted to you!

It has been my good fortune to be able to spend most of my professional life as a working missionary in the development of pediatric urology, and high adventure it has been though, in earlier years, not without some retardation in sundry quarters. The field is an ever-expanding one with myriad situations to be faced and, in time, the right answers will be found. But we shall never run out of urologic problems in young patients, and the opportunities for scientific advancement are unlimited.

* Presented before the Section on Urology on the occasion when the author received the *Ferdinand C. Valentine Award and Medal,* The New York Academy of Medicine, March 20, 1963.

In addition to his fame as a skilled and ingenious urologist, Dr. Ferdinand C. Valentine is perhaps best known today for the Valentine glass irrigating reservoir which is still seen in urologists' offices the world over. Then there is the Valentine urethral irrigating tip with the no-splash shield once widely used in the treatment of gonorrheal urethritis which at one time constituted a large portion of urologic practice. Born to a Dutch mother and German father aboard a ship in the North Sea in 1851, Doctor Valentine was brought to the United States in infancy. Eventually, he received his medical education at the MacDowell Medical School of St. Louis, later known as the Missouri Medical College. Initially, he wanted to become an ophthalmologist and studied in the City of New York. But his viewpoint shifted and he became Surgeon General of the Army of Honduras where his interest in genitourinary diseases was ignited. He pursued this study in Europe and upon his return to the United States he became one of the pioneers distinguishing urology—then known as genitourinary diseases and surgery—as a specialty. He was a founder of the American Urological Association, its first Secretary and its third President. He served as professor of genitourinary diseases at the New York School of Clinical Medicine, made many contributions to medical literature, and was a member of several outstanding medical organizations including the Association Française d'Urologie, Société Belge d'Urologie, and Die Deutsche Gesellschaft für Urologie. Doctor Valentine was a cosmopolite, highly talented, a linguist, and a man of sanguine human understanding and sympathy. He died in 1909, leaving a trust fund to The New York Academy of Medicine to which he was elected a Fellow in 1896, and this Fund and its Award are the focal points of tonight's gathering.

I knew of Doctor Valentine through his nephew, Dr. Julius J. Valentine, whom many of you surely remember. After World War I, Dr. E. L. Keyes brought Julius to Bellevue Hospital Urological Service as a junior attending in 1920, and there we began a close friendship lasting many years until his untimely death at 57 years of age.

On November 23, 1921, Dr. Alexander Randall of Philadelphia presented a paper entitled "Studies on a Series of Sixteen Cases of Granuloma Inguinale" at a meeting of the New York Section of the American Urological Association, held at The New York Academy of Medicine, then located on West 43rd Street. I was formally invited to

discuss this paper because, although I was still early in my residency at Bellevue, I had been doing some investigative study of this disease, relatively "new" at the time; several patients had been treated with tartar emetic intravenously and I had recently published a paper on the subject in the *Journal of the American Medical Association.* Little could I foresee then that 42 years later I would again be on the rostrum of the Academy, but to be honored by friends.

I hope I shall be pardoned if much of what I have to say this evening has an excessive personal flavor; it was my singular good fortune in what could be called the early days to have had a hand in gaining for many infants and children in the New York metropolitan area the urologic attention they required. For the younger urologists a brief historical sketch is recited as to how some of this came about.

The story of pediatric urology everywhere was a rather thin one until the 1940's. The earliest published evidence of substantial interest that I have been able to unearth is a small sixty-five page booklet entitled *The Affections of the Urinary Apparatus in Children* by John H. Morgan of London and delivered as The Lettsomian Lectures before the Medical Society of London in 1898—when I was four years old! Mr. Morgan was surgeon to Charing Cross Hospital and to the Hospital for Sick Children, London, and was a competent surgical clinician, the master of his five senses. This amazing compendium not only reviews the subject prior to that date but reflects superior urology practiced without benefit of cystoscopic or radiographic assistance. With these exceptions and without chemotherapy, the Table of Contents reads much like that of a present-day urology textbook.

During the third decade of this century there appeared sporadic articles discussing urologic problems in the young, the chief of these contributors being Bugbee and Wollstein, Beer and Hyman, Helmholz, Hinman senior, Kretschmer, Ladd and Lanman, Hamer and Mertz, and Paul Butterfield. In 1911, Dr. Edwin Beer described cystoscopy and ureteral catheterization in young children, using his new miniature 15 F. cystoscope with removable catheterizing sheath accommodating one catheter, and in 1919 Young, Frontz and Baldwin described prostatic urethral valves. In passing, it is interesting that when transurethral prostatic resection gained a foothold in the 1930's and his annual harvest of perineal prostatectomies declined, Dr. Hugh Young turned much of his attention to urology in children, spending, as he once

told me, more and more time at the Harriet Lane Home, the pediatric department of the Johns Hopkins Hospital.

It is noteworthy that few of these early articles appeared in the *Journal of Urology*, founded in 1917, but rather in *Surgery, Gynecology and Obstetrics, Annals of Surgery, American Journal of Surgery*, occasionally in pediatric journals and in the *Journal of the American Medical Association*. After 1930, wider interest in pediatric urology became evident and here and there the subject began to be mentioned in medical school and hospital teaching. During recent years more and more articles concerning urology in the young have appeared in the *Journal of Urology* and comparatively fewer in pediatric and general surgical publications; this is discussed again later.

Following Morgan's 1898 publication it was not until 1930 that another book on urology in childhood appeared, that of Beer and Hyman, published by Paul Hoeber of New York and of essentially the same subject material as Morgan's but with the added value of cystoscopic and radiographic considerations.

In 1930, there appeared Volume XX by Dr. Henry Helmholz in the Appleton Series, Clinical Pediatrics. This book, entitled *Diseases of the Urinary Tract*, written from the viewpoint of the pediatrician, summarized a great deal of experimental animal work on urinary infections and did much to stimulate interest in this condition in the young.

Campbell's two-volume *Pediatric Urology* was published by Macmillan Company in 1937; ten years of hard work, clinical research, and writing went into the effort which covered all phases of the subject as known at that date: anatomy, physiology, embryology, anomalies, and other urogenital tract conditions were considered *in extenso*, as were diagnosis and surgical treatment. What I felt to be a most valuable part of this book was the résumé of the incidence and nature of myriad urologic anomalies as disclosed by our study of autopsy records in 26,480 individuals including 12,080 infants and children. These studies were made in hospitals with which I was associated in the metropolitan New York area. I well remember encountering my former chief, Dr. E. L. Keyes, in 1934, and he asked me what I was doing. When I told him I was writing a book on pediatric urology, he laughed and in his characteristic way said, "Hell, man! There isn't enough in it to fill a book!" Undiscouraged, I persevered. The Macmillan Company published all the submitted material in *two* volumes. After Doctor Keyes looked

through the set I gave him, he wrote me a most kind and complimentary letter expressing, among other matters, how much he wished he had had me working with him on what proved to be the final edition of his famous textbook.

In the 1940's, a Russian urologist of Leningrad sent me an autographed copy of his 250-page monograph on pediatric urology. As it was written in Russian I could not read it, but from the illustrations I gleaned it covered most of the topics of pediatric urology known at the time. A letter in English accompanied the presentation copy; in it the author expresssed two items I have not forgotten. The first: he stated that his associates referred to him as the Soviet Campbell; the second item was the tone and content of the entire epistle, lauding Stalin and Communism to the skies, and in a manner I have never encountered elsewhere; and all as though he had a pistol held at his head while writing to me.

W. B. Saunders Company published Campbell's *Clinical Pediatric Urology* in 1951. In this large single volume, our study of anomalies was nearly doubled. This book has not undergone a second edition as the later salient knowledge of urology in the young appeared in an extensive section in Campbell's three-volume *Urology* published by Saunders in 1954. I have updated *Pediatric Urology* in the second edition of this work due to appear in two months (1963). Campbell's *Principles of Urology*, a 600-page textbook for medical students and general practitioners was published in 1957 by Saunders. In this volume, generous attention was directed to the various urologic problems of infancy and childhood. Subsequently, it was published in Spanish (1958) and in Portuguese (1960), bringing to Central and South America the latest practical urologic knowledge of the time. With these writings, contributions have also been made to Brennemann's *Pediatrics*, Litchfield and Dembo's *Therapeutics of Infancy and Childhood*, Pack and Ariel's *Tumors of Children*, Abdel Fattah Youssef's *Gynecological Urology*, and publication of over 200 papers on uropediatric subjects.

Additional textbooks on Urology in childhood include the excellent treatise of Higgins, Williams and Nash of London published in 1951, and that of Gaston Lauret of Paris in 1956. Doubtless there are others of which I am not aware. In short, the bound-book literature in this field continues to expand.

A personal survey of the number of articles concerning some phase

of pediatric urology and published in nine representative medical and surgical American journals shows that in 1920 there were 17; in 1930 there were 47; in 1940, 54; in 1950, 76; in 1960, 96; and in this past year of 1962, 82*. In the *Journal of Urology* of 1962 there appeared 63 articles concerning pediatric urology as compared with only two in this journal in 1920. There were only 19 articles on this subject in all the other eight reviewed 1962 periodicals. Statistically this reflects sharply increased activity in the past two decades and the sagacity and benefit of teaching pediatric urology not only to urologic interns and residents but to pediatricians, general practitioners, undergraduate students, and nurses as well.

My own interest in this field was first aroused in 1920, when I watched Dr. A. R. Stevens perform cystoscopy on a little girl from the Children's Surgical Service at Bellevue. She harbored a fairly large bladder stone. Doctor Stevens used an 18 F. Brown-Buerger type of observation instrument with removable telescope, but without irrigation facilities; subsequently the calculus was removed. The clinical picture, the examination sequence, and the treatment indelibly impressed on me the enormous potential of urology in infants and children. In 1925, five years later, when the opportunity to do this work presented itself to me at Bellevue, I eagerly grasped it. At that time I was fortunate in an enthusiastic alliance with a urologically minded pediatrician, Dr. John D. Lyttle, with whom I worked closely at Bellevue for four years and at Babies Hospital for another seven years, and thereafter until he became Professor and Head of the Department of Pediatrics at the University of Southern California Medical School and director of the Los Angeles Children's Hospital. He died suddenly at 57, still highly allergic to the term "pyelitis."

Through Doctor Lyttle's intercession with Dr. Herbert Wilcox, then Professor and Head of the Department of Pediatrics at Columbia University and director of the Children's Medical Service of Bellevue, John and I were given permission to proceed with a program of urologic study and care of infants and children. This was not without ill-concealed resentment by some of the older pediatricians. Yet, I am

* The journals tallied were the *American Journal of Diseases of Children* (33 articles); *American Journal of Surgery* (17); *Annals of Surgery* (5); *Archives of Pediatrics* (9); *Journal of the American Medical Association* (46); *Journal of Pediatrics* (26); *Journal of Urology* (194); *Surgery, Gynecology and Obstetrics* (25); *and the Southern Medical Journal* (17). It is notable that at least a fourth of the articles counted as urologic in the pediatric journals concerned some phase of enuresis.

happy to report that as weeks passed we were able to demonstrate gratifying gain to our young patients, predominantly those with persistent pyuria, euphemistically then called chronic pyelitis. Remember that in the middle 1920's urotropin and methylene blue were the only available urinary antiseptics—not overlooking the worthless caprokol.

At the outset of our work we were repeatedly asked to see only the desperate cases, to learn what could be done for them. As favorable results were demonstrated, the flow of cases more and more approached normal expectancy. For a long time the opposition by pediatricians to having children urologically examined and specially treated, made our efforts decidedly uphill. During the first 20 years it was often found, in private practice, much more difficult to convince the family doctor that the criteria for adequate urologic examination were present, and to get his cooperation, than it was to win the consent of the parents.

At Bellevue, as others have found elsewhere, our main initial problem was one of educating the pediatrician and the general practitioner. This was achieved by demonstrating what could be done by rational examination and treatment of these little patients. Our earliest major case was a six-year old girl with persistent pyuria due to infected left hydronephrosis induced by aberrant vascular obstruction; surgical relief restored drainage with eventual cure of the infection and salvage of the kidney. Presentation of such cases at the pediatric conferences stimulated interest locally, including the house staff, the attending pediatricians, students, nurses, and others at these meetings. It was not too long before we were receiving large numbers of youngsters referred from the Out-Patient Department, but in about two-thirds of them our criteria for complete cystoscopic and urographic examinations were lacking. They required only meatotomy, urethral dilation or comparable conservative treatment. Yet, among these patients there were many with "persistent enuresis." A study of the bladder necks in these cases revealed a wealth of uropathy, chiefly neuromuscular vesical disease, contracture of the vesical outlet, hypertrophy of the verumontanum, prostatic urethral valves, papilloma of the deep urethra and, in one case, urinary tract tuberculosis. We found that one in six of these children could not empty the bladder completely; that is, there was residual urine. It was gratifying to note in how many the enuresis ceased with eradication of the demonstrated lesion.

From the outset Doctor Lyttle attended to the medical aspects of these problems; he was especially interested in nephritis and hypertension, and we subjected many of his patients to complete urologic investigation.

Early in this project I foresaw the great sacrifice of time this charity work would take, what with my other duties as assistant visiting on urology at Bellevue Hospital. I obtained from Doctor Stevens, then the Director, indefinite leave of absence from the adult Urology Service to enable me to devote full time to pediatric urology; so fascinating did I find it, that I never got back to the adult service.

In 1929, when Babies Hospital moved uptown to the Columbia-Presbyterian Medical Center, Doctor Wilcox left Bellevue to be Director at Babies and Doctor Lyttle accompanied him as associate visiting pediatrician. Doctor Wilcox invited me to come to Babies and carry on with Doctor Lyttle the program we had at Bellevue. I well recollect the first case I was asked to see: a six-month old girl with "chronic pyelitis" who had been lying in the ward for six weeks treated only with methylene blue. Examination disclosed midurethral ectopic opening of a greatly dilated ureter from a large infected hydronephrotic reduplicated left upper renal segment; ureteroheminephrectomy was curative. I am happy to see that Dr. John Lattimer and his associates are taking full advantage of the opportunities for the investigation, study, and forward progress offered by their enormous potential of pediatric urologic patients. In teaching centers elsewhere, similar organizational setups and studies are now in progress.

Dr. Charles Hendee Smith succeeded Doctor Wilcox at Bellevue and gave me full support in my uropediatric endeavors, and every opportunity to show our problem children at the well-attended pediatric conferences. I shall always be grateful to Doctor Smith.

In 1930, and largely through the instigation of Dr. Oscar Schloss, then Professor and Head of the Department of Pediatrics at Cornell, I was appointed urologist at the old New York Nursery and Child's Hospital on West 61st Street and Tenth Avenue and now demolished. At the time it was Cornell University Medical School's Pediatric Service of which Doctor Schloss was Director. Here again a dramatic case greeted me: a seven-year old girl with "persistent acute pyelitis" for a month proved on examination and exploration (nephrectomy) to have multiple left renal carbuncles with extensive perirenal abscess. Thus, a

wave of interest was widened to another group of pediatricians among whom I best remember Drs. Schloss, Louis Schroeder, Sam Levine and, especially, the pathologist Dr. James Wilson who with Doctor Schloss in 1929 definitively described the renal pathology in interstitial suppurative nephritis too commonly called pyelitis.

Thus, for a few years I had the good fortune to be doing the urology for the pediatric services of the New York, Columbia, and Cornell University medical schools, a coverage of several hundred children's beds and a fabulous opportunity of which I tried to make the most. It may be of interest to note that at each institution it was necessary to build up our instrumentarium from scratch; until procured in the various hospitals, I had to take my own miniature cystoscopic and other equipment. It was quite primitive.

Briefly, this is the early history of what are now large active uropediatric services in these medical schools of New York; its recital may be of some interest to younger urologists with teaching activities.

Instrumentarium. Probably the earliest practical miniature observation cystoscope was the German Portner. Beer's 15 F. nonirrigating instrument (1911) with removable catheterizing fin and elevator for passing a single catheter has been referred to. An improvement in 1924 was the Butterfield 15 F. double catheterizing forward vision cystoscope, at first without and later with irrigation facilities. Subsequently (1930), his right-angle miniature cystoscope was developed. Other new instruments include McCarthy's for oblique vision with an 11 F. observation, a 13 F. single catheterizing, and a 14 F. double catheterizing sheath which offers a splendid combination. Additional miniature instruments include the Wolff 8 F. observation nonirrigating cystoscope, Corbus's 10 F. single catheterizing cystoscope, Young's 13 F. double catheterizing cystoscope, McCrae's 15 F. infant cystoscope, Laidley's 16 F. double catheterizing Brown-Buerger type of cystoscope, more recently the 14 F. instrument, the Springer 10 F. instrument and others.

In my own work it was necessary to have several different miniature instruments made as the need developed. These included a miniature resectoscope (1930), a cystoscopic set with an 8 F. observation and 12 F. double catheterizing sheath (1932), a 13 F. double catheterizing cystoscope (1933), a forward vision 17 F. miniature cysto-urethroscope which accommodates up to 10 F. ureteral dilating bougies and permits simultaneous catheterization of four ureters, the use of miniature operating

scissors, rongeurs, coagulating tips, a bladder neck incisor, and so on. With the 19 F. sheath the miniature dilating cysto-urethroscope will accommodate up to a 13 F. ureteral bougie. Other instruments we found need for, and had made, included an internal urethrotome (7 F.; 1948), ureterovesical junction incisor (7 F.; 1950), miniature sounds, miniature male and female metal catheters, and a fenestrated trocar for nephrostomy or cystostomy drainage and permitting the free introduction of a balloon catheter. Our small adjustable horizontal leg holders for cystoscopic tables permit the young patients to lie supine and relaxed during the examination with no tension on the perineum and deep urethra, such as is often occasioned by the knee-crutch type of holder. Miniature resectoscopes for transurethral excision of the bladder neck, hypertrophied verumontanum, or prostatic urethral valves have been designed by Nesbit and by McCarthy. Improvement in the miniature cystoscopic armamentarium is foreseen, especially instruments with lenses devised to admit more light.

During the 1930's and later, I received requests from many chiefs of urologic services both in and out of the United States for recommendations as to the desiderata in setting up a pediatric urology department, and particularly what miniature instruments and other equipment they should obtain. Even today, an occasional request will come in for this information, and over the years I have received hundreds of letters from physicians in all parts of the world asking advice for their little patients. Such "out-patient" consultations continue, albeit less frequently, reflecting dissemination of knowledge by teaching and/or literature; the awareness of pediatric urology problems and their treatment in foreign lands gives one a particular recompense. Needless to say, I am always eager to help.

Before leaving the subject of instruments it should be emphasized that some urologists still do not recognize that they can not perform urethroscopy with a right-angle cystoscope and that to study properly the vesical outlet, urethra and remainder of the channel, a forward vision instrument is essential. Moreover, one can not appropriately practice pediatric urology with only one miniature instrument in his armamentarium, any more than he can practice urology in adults with only one instrument. The use of right-angle vision as well as forward vision instruments is imperative. The possession of several types of miniature instruments is desirable and it is well to have at least complete dupli-

cates of those most used. For my own work I had 22 different miniature cystoscopes, but have recently given five of these to a medical museum. A great many of my instruments have been of my own design; some have not been described in the literature and have never been commercially produced.

As the call for new instruments for special purposes arises, inventive urologists will answer it. Stewart's most useful miniature suprapubic vesical neck punch is a relatively recent example. Yet, in an article on submucous fibrosis (contracture) of the bladder neck, published in the *Journal of the American Medical Association* in 1930, I advocated the suprapubic use of the nasal spur punch of the rhinologists for the same purpose; it works equally well.

Unquestionably the greatest impetus to the furthering of pediatric urology was the introduction of excretory urography in 1929. While this medium is of great diagnostic value in at least half of all children in whom it is used, its employment is warranted in all young patients in whom urographic demonstration may be expected to be of diagnostic aid. However, unless it is technically impossible to perform retrograde pyelography in addition, I have long since ceased operating upon the upper urinary tract on the basis of excretory urographic findings alone.

The advent of sulfonamide therapy in the late 1930's and of penicillin and other antibiotics in the 1940's and subsequently, has revolutionized the treatment of urinary infections. Although there is still no ideal or universal urinary antiseptic, great strides forward have been made and our present-day therapy combined with ample blood transfusions and improved anesthesia now enables us to carry out extensive hazardous surgical procedures even on infants, operations we would not have dared contemplate 25 years ago.

Today the diagnostic modalities with cinefluorography, urine flow meters, voiding and radioactive cystography, pressure-flow estimations, cystometry and the like are well established in some large medical centers, but it will be some time before they are all generally available in hospitals. There are even tape recordings of the musical tinkle of the falling urine from voiding young females.

Today we know something of testicular maturation and its consideration as an indication of when to operate for cryptorchism. Some surgeons say at ten years, a few at seven, but I prefer five years and, if bilateral, earlier as this is the time maturation of the gonads begins.

The value of prompt surgical treatment of Wilms's tumor is widely recognized. In most cases—of large tumors at least—nephrectomy by the transabdominal route is preferred. Yet, in nearly all of my dozen living patients operated on for Wilms's tumor, the growth was removed through a large loin or T incision. I regularly employ postoperative irradiation in these cases. Chemotherapy with actinomycin D in particular is today occasionally used; I have one patient, now four years old, with an apparently favorable result nearly two years postoperative, despite early evidence of pulmonary metastases. Because of tumor invasion of larger blood vessels the assistance of a vascular surgeon may be required, although a few urologists have the skill to do these vascular operations themselves. Even in surgically hopeless neuroblastoma of the adrenal, apparent cures have been achieved by irradiation alone. Unquestionably, the future will develop anticancer therapy which will enable us to lower the death rate from tumors of all organs in the young.

I foresee that when the problem of immunologic tissue rejection is conquered, renal transplantation will become a relatively common operation, especially in the larger teaching centers adequately equipped to carry it out. We have no ideal or nearly perfect operation for hypospadias; this is something for future development. The abandonment of the inlying catheter, the application of fundamental principles of plastic surgery, and the employment of antibacterial therapy may be expected to improve our results in general.

In exstrophy of the bladder, great interest has developed in recent years in attempting bladder closure with creation of a new urethra and bladder neck mechanism. It is likely that in the future a satisfactory method will emerge, but having observed the results of others employing "newer" methods, I am largely content with ureterosigmoidostomy. The future of ileal loop surgery is brilliant if it is rationally employed, a criterion that is not always met.

Present-day therapy has reduced not only the death incidence of tuberculosis but also the number of operations performed. With this, "cure" has perceptibly improved. It seems likely that in the future in civilized communities uropediatric tuberculosis will be virtually unknown. With chemotherapy and biotherapy of tuberculosis as a shining example, and still lacking a universal and acceptable antiseptic against the more common varieties of urinary infection, I foresee that one day

the discovery of such a new antiseptic will occur, one that will regularly kill the bugs without injuring or killing the patient.

Today, in some quarters, we are going just a little overboard in the matter of vesico-ureteral reflux. While it is realized that the condition is undesirable, it seems to me that too often relatively minor degrees of reflux are accepted as an indication for ureterovesical junction surgery which leaves the patient either with persistent and often greater reflux or with secondary constriction of even graver consequence than the initial reflux. More than half of the instances of reflux will be corrected by elimination of bladder neck or peripheral obstruction and/or eradication of urinary infection.

Many young patients with abnormally narrowed ureters, especially in the ureterovesical junction area, or constrictions in the urethra and particularly at the vesical outlet, may be helped and even cured by instrumental overdilation.

Urology in children remains predominantly the treatment of anomalous development.

I recollect that rather early in my experience I was ridiculed by some for finding prostatic urethral valves to be not too uncommon. I have voiding and other cystograms, made as early as 1928, demonstrating these anomalies. In 1931, I reported 18 cases of prostatic urethral valves in the *Journal of the American Medical Association,* and 55 cases in my two-volume *Pediatric Urology* in 1937.

It is foreseen that mild contracture of the vesical outlet in the young will be more definitively recognized and treated. It must be remembered that with contracture of the vesical neck, hypertrophy of the trigone is certain to be found and, conversely, with the observation of trigonal hypertrophy, when the cystoscopic appearance of the bladder neck is not characteristic, one may rest assured that bladder neck obstruction exists and requires correction to eliminate urinary stasis. I employ transurethral resection in most of these young patients rather than the more radical Bradford-Young type of V-wedge excision and urethrovesicoplasty.

Great concern, both academic and practical, has developed with the problems of urinary stone formation, the chromosomes, renal vascular surgery and hypertension, aortography, and the hormones, especially in adrenalism and, more recently, aldosteronism. We still know next to nothing concerning adequate treatment of the more severe forms of

neuromuscular urinary tract disease. In all these areas lie many unanswered questions with problems for investigative work for untold years to come.

In many communities the relative domains of the urologist and the pediatric surgeon are unsettled and often give rise to considerable acrimony. While many pediatric surgeons can doubtless remove a kidney as expeditiously as the urologist, the problems are usually not that simple; and for one of my grandchildren with a serious urologic condition, I would certainly want the urologic study and treatment carried out by a urologist experienced in pediatric urology rather than by any pediatric surgeon I know of, most of whom know little or nothing of urologic instrumental diagnosis and treatment. It is up to the urologist to demonstrate that he can render the required service more competently than can the pediatric surgeon.

Today a young alliance with the American Academy of Pediatrics has been established. The Academy has a membership of over 6,000. It has a tremendously well-attended meeting at the Palmer House in Chicago each October which offers a most fertile field for urologic missionary efforts. I have the distinction of being the only urologist elected to honorary associate membership in this organization; for several years I conducted seminars at the annual meetings and am happy to see that this innovation is still being carried on by younger urologists. I foresee in this unity a matchless chance for mass education of pediatricians through demonstrations of the assistance we urologists can offer their young patients.

In some medical schools one or more sessions a year are being devoted to pediatric urology. A splendid opportunity for teaching case presentation is afforded at the pediatric conferences attended by large numbers of pediatricians, internes, students, and nurses.

I foresee that before too long training in pediatric urology will be a requisite for certification by the American Board of Urology. This is going to demand much closer cooperation between the urologic and pediatric departments of hospitals throughout the country, all to the benefit of young patients. Societies for the discussion and promotion of pediatric urology have sprung up; one such meets on the Sunday preceding the opening of the American Urological Association convention each year; another precedes the annual meeting of the American Academy of Pediatrics, affording an occasion for hundreds of pediatricians

to meet with urologists for mutual discussion. Moreover, uropediatric subjects are being presented not only to pediatric meetings but also to urologic ones, even to the extent of full half-day programs and panels. This is as it should be, for the development of pediatric urology offers the most exciting experience for mass patient benefit, and scientific progress of any branch of our specialty.

While pediatric urology has now acquired considerable impetus, it devolves upon all urologists to inform not only the medical profession but also the public at large as to what can be accomplished. I have eagerly carried the message many thousand miles during the past 35 years, performing this missionary work by the media of lectures, clinics, panels, demonstrations, and the like, coast to coast in this country and in many Latin-American countries. It is only by such zealous endeavor that the seed will be sown and will fruition beneficial to young patients be achieved. Especially is it important that pediatricians and general practitioners be thus educated and have their viewpoints enlarged. Only by treating the many will we cure the few.

BIBLIOGRAPHY

Beer, E. and Hyman, A. *Diseases of the Urinary Tract in Children.* New York, Paul B. Hoeber, Inc., 1930.

Campbell, M. F. *Pediatric Urology.* New York, Macmillan Co., 1937.

Campbell, M. F. *Clinical Pediatric Urology.* Philadelphia, W. B. Saunders Co., 1951.

Campbell, M. F. *Urology.* Philadelphia, W. B. Saunders Co., 1954. 2nd ed., Philadelphia, W. B. Saunders Co., 1963.

Campbell, M. F. *Principles of Urology: Textbook for Medical Students and General Practitioners.* Philadelphia, W. B. Saunders Co., 1957. Spanish edition (*Urologia*), Editorial Inter-Americana, Mexico, D. F., 1958. Portuguese edition (*Urologia Práctica*), Rio de Janeiro, Livaria Editora Guanabara, Koogan S. A., 1960.

Helmholz, H. F. *Diseases of the Urinary Tract in Childhood.* Vol. XX, New York, D. Appleton & Co., 1930.

Higgins, T. T., Williams, D. I. and Nash, D. F. E. *Urology of Childhood.* London, Butterworth, 1951.

Lattimer, J. K. Importance of teaching pediatric urology vigorously, *Trans. Amer. Ass'n. Genitourin. Surg. 54*:126-30, 1962.

Lauret, G. *Urologie de l'enfance.* Paris, Expansion Scientifique Française, 1956.

Young, H. H., Frontz, W. A. and Baldwin, J. C. Congenital obstruction of the posterior urethra, *J. Urol. 3*:289-365, 1919.